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PATENT & TRADEMARK OFFICE

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANTS: Sherman M. Weissman
Namadev Baskaran

(ii) TITLE OF INVENTION: Amplification of Nucleic Acids

(iii) NUMBER OF SEQUENCES: 8

(iv) CORRESPONDENCE ADDRESS:
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(C) CITY: Washington
(D) STATE: D.C.
(E) COUNTRY: USA
(F) ZIP: 20004

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Diskette
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: Patentin Release #1.0. Version #1.30

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER: US 10/073,353
(B) FILING DATE: 2002-02-13

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 08/758,662
(B) FILING DATE: 1996-12-07

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 08/758,662 (CPA)
(B) FILING DATE: 1999-02-17

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 09/585,437
(B) FILING DATE: 2000-06-02

(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Michael S. Tuscan
(B) REGISTRATION NUMBER: 43,210
(C) REFERENCE/DOCKET NUMBER: 44921-5007-03-US

(ix) TELECOMMUNICATION INFORMATION:
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(2) INFORMATION FOR SEQ ID NO:1:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
CGCCAGGGTT TTCCCAGTCA CGAC 24

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
AGCGGATAAC AATTTCACAC AGGA 24

(2) INFORMATION FOR SEQ ID NO:3:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 1652 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
GGATCCGGCC CCACGGAGGT CCCCATCTCC CTCAAGATTC TCAGATTCAT CCCCAATGAG 60
TGGTGTAGCC CCTACAGGGG TGTCAGCCCC CCTCATCACC AACAGTGACA GTGACAGAGG 120
CTGGAGATGA GGGGCCAGCA GGCTCCAGGG AGTCGGGGGT GGCCTTGGGC AGGGTTTCTT 180
CACTACGAGG GGTGTTCCCC AAAGAGCCAT GAACTGTAGA GGAAGAGAAA AAGTTCAGAG 240
CTAAGGGCTC AGGAGATCCT GTGTATTTAG GGAAGGTGAC GGTCCAATTG GGGCCCGTTT 300
TAGCTGCACT CACCTCTCTC GGTGGCTCCT CTGGTTTCCT TCTCCAGCAG CTCCCCCATC 360
TCAGCGGGGG CCATCCCCCT GGGAGGGGAG ACAAGGGACA GGAGGGCTGG TCAGCCCAGT 420
AGAGAGTTGG GGGGTCCAGG ATGCCTGGGC CCTGGGAAGA GAGAGTAGGC TCCGGGGCCT 480
ACCTCTTCCT CTGGCCCTTC CGCGGCCTCG GCTGCCCGGA GCCGCACAAC CCTCCCCGGG 540
CCGCATAATC CCTCCTTGAT GACCCTCCCT CTCGGTAGTA CCCGCACTCT GGGGCCGAGA 600
GAAGAGGAGG GGGCACGGAC TCTTGGGGGG GGCCTCCGAG CCCGGCCCCG CCCCTCTCCC 660
CGGCTGCACG CGCCGATACC CTTTGTACCC AGGCGCGGGA CCCGGACAAT CCTCAGATCC 720
TCCAGCACCC GCTGCCCCCC AGCCCGGTGG ACGGCCCCTC GTGCCCCTCA CGCGTGCTCC 780
TGGGGCCCCG GCGCCCGTCG CCCAGTGCGG GCAGGCCGGC GGCTGCACGC GCGCCTCCGT 840
GCCCACTCCC CCCACCTCCC ACACCCTGGT CCCCTCATCC GCCCCCGGTG CTGGCCCCCT 900
GGATTGCTGC AAGTCCCGCC CGGCCCCCGG CCCCGTTGCA CCCCCGGAGC ATTGCACGGC 960
GCTTCCCCCG GGGGCGCGCG CGGGCATGCA CCCGCCTCTC CCCCTCCCTT CCGCACCTCG 1020
GCGGCCGCCG CCGCTGCAGC TCCCGCCGCC GCCGCCATCG CGCTTGCGCT GGGGGCCGAG 1080
CCGGCGCGCG GCCGCCCCGG GTCACGTGGG CGAGGGAGGG AGGGCGAGGA GGAGCCTTAA 1140
AGGAGCCGCT ACATGCTTTT TGGCCATTTT CCCCTGAGAG CGGCCTCGGA GATGGCTGTG 1200
ACTGTCCTAA GCTGGGAGCT GCAAGGGAGA ATTCCTGTCA TTCCTGGCCT CAGTTCTGCA 1260
GGGACCGAGG GCGAGACACG CCTGGGCCCA GGTGTGGCGT CTCTGTCCCC ATCTGGTTTT 1320
AGGTAACAAG CGGACGTTCT GAACTTCTCG GCTCTCGGCA GCGGCTGTAT TTCCTCTGGC 1380
CTGGTTGGGC TTTTCCCGCC TCTGGTTGCT TTTCTGCCTT TCTAGTTTTT GGGTTACCAG 1440
ATAGAAGGCT TGGCCTCAGT TTTGGCCTCG CCTTTTTGCT CTTTCTAACG AGCACGAAGG 1500
GGCGATAGGG ACGCGGAGGA CACCTTTATT CTTGGCTGGT TCTAGCATGC TGCTTCATGT 1560
CCCCTGGAGC AGCGTGCCCT TCTGAAAACC TGTGGCTAAA TGTCTCTTCT GTTTATATCT 1620
GGCGTGTTAC ACCTTCACAC GCACTAGGAT CC 1652

(2) INFORMATION FOR SEQ ID NO:4:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 530 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:
CGAGGCCATC CGGCGGGCCT GCCTGCCCAC GCCGCCGCTG CAGAGCAACC TCTTCGCCAG 60
CCTGGACGAG ACGCTGCTGG CGCGGGCCGA GGCGCTGGCG GCCGTGGACA TCGCCGTGTC 120
CCAGGGCAAG AGCCATCCTT TCAAGCCGGA CGCCACGTAC CACACGATGA ACAGCGTGCC 180
GTGCACGTCC ACTTCCACGG TGCCTCTGGC GCACCACCAC CACCACCACC ACCACCACCA 240
GGCGCTCGAA CCCGGCGATC TGCTGGACCA CATCTCCTCG CCGTCGCTCG CGCTCATGGC 300
CGGCGCGGGC GGCGCGGGCG CGGCGGCCGG CGGCGGCGGC GCCCACGACG GCCCGGGGGG 360
CGGTGGCGGC CCGGGCGGCG GCGGCGGCCC GGGCGGCGGC GGCCCCGGGG GAGGCGGCGG 420

TGGCGGCCCG GGGGGCGGCG GCGGCGGCCC GGGCGGCGGG CTCCTGGGCG GCTCCGCGCA 480
CCCTCACCCG CATATGCACA GCCTGGGCCA CCTGTCGCAC CCCGCGGCGG 530

(2) INFORMATION FOR SEQ ID NO:5:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 515 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:
ATGGCGATAA CAGTCATGTG GAGATGAAAC TTGCTGTAGA TGAAGAAGAA AATGCTGACA 60
ATAACACAAA GGCCAATGTC ACAAAACCAA AAAGGTGTAG TGGAAGTATC TGCTATGGGA 120
CTATTGCTGT GATCGTCTTT TTCTTGATTG GATTTATGAT TGGCTACTTG GGCTATTGTA 180
AAGGGGTAGA ACCAAAAACT GAGTGTGAGA GACTGGCAGG AACCGAGTCT CCAGTGAGGG 240
AGGAGCCAGG AGAGGACTTC CCTGCAGCAC GTCGCTTATA TTGGGATGAC CTGAAGAGAA 300
AGTTGTCGGA GAAACTGGAC AGCACAGACT TCACCAGCAC CATCAAGCTG CTGAATGAAA 360
ATTCATATGT CCCTCGTGAG GCTGGATCTC AAAAAGATGA AAATCTTGCG TTGTATGTTG 420
AAAATCAATT TCGTGAATTT AAACTCAGCA AAGTCTGGCG TGATCAACAT TTTGTTAAGA 480
TTCAGGTCAA AGACAGCGCT CAAAACTCGG TGATC 515

(2) INFORMATION FOR SEQ ID NO:6:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 30 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:
GCTCAGCTCC GTTTCGGTTT CACTTCCGGT 30

(2) INFORMATION FOR SEQ ID NO:7:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 30 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
AGCCCCGCAC TTCCACCACC AGCTCCTCCA 30

(2) INFORMATION FOR SEQ ID NO:8:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 2584 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:
GAGGAGCAGC GAGTCAAGAT GAGAGTTCAG CCGCGGCGGC AGCAGCAGCA GACTCAAGAA 60
TGAACAATCC GTCAGAAACC AGTAAACCAT CTATGGAGAG TGGAGATGGC AACACAGGCA 120
CACAAACCAA TGGTCTGGAC TTTCAGAAGC AGCCTGTGCC TGTAGGAGGA GCAATCTCAA 180
CAGCCCAGGC GCAGGCTTTC CTTGGACATC TCCATCAGGT CCAACTCGCT GGAACAAGTT 240
TACAGGCTGC TGCTCAGTCT TTAAATGTAC AGTCTAAATC TAATGAAGAA TCGGGGGATT 300
CGCAGCAGCC AAGCCAGCCT TCCCAGCAGC CTTCAGTGCA GGCAGCCATT CCCCAGACCC 360
AGCTTATGCT AGCTGGAGGA CAGATAACTG GGCTTACTTT GACGCCTGCC CAGCAACAGT 420
TACTACTCCA GCAGGCACAG GCACAGGCAC AGCTGCTGGC TGCTGCAGTG CAGCAGCACT 480
CCGCCAGCCA GCAGCACAGT GCTGCTGGAG CCACCATCTC CGCCTCTGCT GCCACGCCCA 540
TGACGCAGAT CCCCCTGTCT CAGCCCATAC AGATCGCACA GGATCTTCAA CAACTGCAAC 600
AGCTTCAACA GCAGAATCTC AACCTGCAAC AGTTTGTGTT GGTGCATCCA ACCACCAATT 660
TGCAGCCAGC GCAGTTTATC ATCTCACAGA CGCCCCAGGG CCAGCAGGGT CTCCTGCAAG 720

CGCAAAATCT TCAAACGCAA CTACCTCAGC AAAGCCAAGC CAACCTCCTA CAGTCGCAGC 780
CAAGCATCAC CCTCACCTCC CAGCCAGCAA CCCCAACACG CACAATAGCA GCAACCCCAA 840
TTCAGACACT TCCACAGAGC CAGTCAACAC CAAAGCGAAT TGATACTCCC AGCTTGGAGG 900
AGCCCAGTGA CCTTGAGGAG CTTGAGCAGT TTGCCAAGAC CTTCAAACAA AGACGAATCA 960
AACTTGGATT CACTCAGGGT GATGTTGGGC TCGCTATGGG GAAACTATAT GGAAATGACT 1020
TCAGCCAAAC TACCATCTCT CGATTTGAAG CCTTGAACCT CAGCTTTAAG AACATGTGCA 1080
AGTTGAAGCC ACTTTTAGAG AAGTGGCTAA ATGATGCAGA GAACCTCTCA TCTGATTCGT 1140
CCCTCTCCAG CCCAAGTGCC CTGAATTCTC CAGGAATTGA GGGCTTGAGC CGTAGGAGGA 1200
AGAAACGCAC CAGCATAGAG ACCAACATCC GTGTGGCCTT AGAGAAGAGT TTCTTGGAGA 1260
ATCAAAAGCC TACCTCGGAA GAGATCACTA TGATTGCTGA TCAGCTCAAT ATGGAAAAAG 1320
AGGTGATTCG TGTTTGGTTC TGTAACCGCC GCCAGAAAGA AAAAAGAATC AACCCACCAA 1380
GCAGTGGTGG GACCAGCAGC TCACCTATTA AAGCAATTTT CCCCAGCCCA ACTTCACTGG 1440
TGGCGACCAC ACCAAGCCTT GTGACTAGCA GTGCAGCAAC TACCCTCACA GTCAGCCCTG 1500
TCCTCCCTCT GACCAGTGCT GCTGTGACGA ATCTTTCAGT TACAGGCACT TCAGACACCA 1560
CCTCCAACAA CACAGCAACC GTGATTTCCA CAGCGCCTCC AGCTTCCTCA GCAGTCACGT 1620
CCCCCTCTCT GAGTCCCTCC CCTTCTGCCT CAGCCTCCAC CTCCGAGGCA TCCAGTGCCA 1680
GTGAGACCAG CACAACACAG ACCACCTCCA CTCCTTTGTC CTCCCCTCTT GGGACCAGCC 1740
AGGTGATGGT GACAGCATCA GGTTTGCAAA CAGCAGCAGC TGCTGCCCTT CAAGGAGCTG 1800
CACAGTTGCC AGCAAATGCC AGTCTTGCTG CCATGGCAGC TGCTGCAGGA CTAAACCCAA 1860
GCCTGATGGC ACCCTCACAG TTTGCGGCTG GAGGTGCCTT ACTCAGTCTG AATCCAGGGA 1920
CCCTGAGCGG TGCTCTCAGC CCAGCTCTAA TGAGCAACAG TACACTGGCA ACTATTCAAG 1980
CTCTTGCTTC TGGTGGCTCT CTTCCAATAA CATCACTTGA TGCAACTGGG AACCTGGTAT 2040
TTGCCAATGC GGGAGGAGCC CCCAACATCG TGACTGCCCC TCTGTTCCTG AACCCTCAGA 2100
ACCTCTCTCT GCTCACCAGC AACCCTGTTA GCTTGGTCTC TGCCGCCGCA GCATCTGCAG 2160
GGAACTCTGC ACCTGTAGCC AGCCTTCACG CCACCTCCAC CTCTGCTGAG TCCATCCAGA 2220
ACTCTCTCTT CACAGTGGCC TCTGCCAGCG GGGCTGCGTC CACCACCACC ACCGCCTCCA 2280
AGGCACAGTG AGCTGGGCAG AGCTGGGCTG CCAGAAGCCT TTTTCACTCT GCAGTGTGAT 2340
TGGACTGCCA GCCAGGTTAA TAAACTGAAA AATGTGATTG GCTTCCTCTC GCCGTGTTGT 2400
GAGGGCAAAG GAGAGAAGGG AGAAAAAAAA AAAAAAAACC ACACACACCC ATACACAATA 2460
TACCAGAAAA GGAAGGAAGG ATGGAGACGG AACATTTGCC TAATTTGTAA TAAAACACTG 2520
TCTTTTCAGG GTTGCTTCAT GGGTTGGAGG ACTTTCTAAC CAAAAATTAA AAAAAAAAAA 2580
AAAA 2584